

07/068293  
Att # 28

# WEST Search History

DATE: Thursday, January 02, 2003

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
<i>DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ</i>			
L16	l1 and l2 and l9 and l10	377	L16
L15	l1 and l2 and (l9 or l10)	381	L15
L14	l12 or L13	8	L14
L13	l1 with l2 with l10	8	L13
L12	l1 with l2 with l9	8	L12
L11	l1 with l2 with l9L10	0	L11
L10	l3 or l9	755820	L10
L9	l4 or l5 or l6	220071	L9
L8	transduct\$ or infect\$	180976	L8
L7	promoter	98471	L7
L6	origin	156087	L6
L5	ori	4777	L5
L4	replicat\$	88438	L4
L3	packag\$	571410	L3
L2	vp1	1773	L2
L1	sv40	14986	L1

END OF SEARCH HISTORY

## WEST Search History

DATE: Tuesday, February 11, 2003

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
<i>DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ</i>			
L10	l1 and L8	239	L10
L9	l1 same L8	35	L9
L8	vp1 with (vp2 or vp3)	918	L8
L7	l1 same l4 same l5	99	L7
L6	l1 with l4 with l5	11	L6
L5	l2 or l3	8751	L5
L4	infect\$	174403	L4
L3	coat protein	5251	L3
L2	capsid	4482	L2
L1	sv40	15612	L1

END OF SEARCH HISTORY

**WEST****Print Selection**[Help](#)[Clear](#)[Cancel](#)[Print](#)[Print First Page](#)

Select?	Document ID	Section(s)	Page(s)	# Pages to print	Database
<input checked="" type="checkbox"/>	6284492	all	all	* 51	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	6132732	all	all	25	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	5905040	all	all	20	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	4599308	all	all	7	USPT,PGPB,JPAB,EPAB,DWPI

**Note:** Print requests for more than 49 pages are denoted by '\*' and are in red.

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<input checked="" type="checkbox"/>	5622930	all	all	20	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	20020068326	all	all	18	USPT,PGPB,JPAB,EPAB,DWPI

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<input checked="" type="checkbox"/>	6132732	all	all	25	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	5908779	all	all	12	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	5817512	all	all	* 64	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	5905040	all	all	20	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	6051426	all	all	14	USPT,PGPB,JPAB,EPAB,DWPI

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Select?	Document ID	Section(s)	Page(s)	# Pages to print	Database
<input checked="" type="checkbox"/>	6284492	all	all	* 51	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	20020068326	all	all	18	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	5118627	all	all	7	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	5858726	all	all	13	USPT,PGPB,JPAB,EPAB,DWPI
<input checked="" type="checkbox"/>	5773278	all	all	* 61	USPT,PGPB,JPAB,EPAB,DWPI

**Note:** Print requests for more than 49 pages are denoted by '\*' and are in red.

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09/06/8 293  
Att# 28

=> s sv40  
L1 41010 SV40

=> s self assembl?  
L2 34538 SELF ASSEMBL?

=> s l1 and l2  
L3 27 L1 AND L2

=> dup rem l3  
PROCESSING COMPLETED FOR L3  
L4 13 DUP REM L3 (14 DUPLICATES REMOVED)

=> d l4 ibib abs 1-13

L4 ANSWER 1 OF 13 WPIDS (C) 2003 THOMSON DERWENT  
ACCESSION NUMBER: 2003-103235 [09] WPIDS  
DOC. NO. CPI: C2003-025956  
TITLE: Novel oligonucleotide useful for interfering with the  
activity of a target nucleic acid molecule, and detecting  
pathogens, comprise a alkynyl functional group at C5  
position of a pyrimidine heterocyclic base.  
DERWENT CLASS: B04 D16  
INVENTOR(S): BARNES, T W; TURNER, D H  
PATENT ASSIGNEE(S): (UYRP) UNIV ROCHESTER  
COUNTRY COUNT: 99  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
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WO 2002078619 A2		20021010 (200309)*	EN	86	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE					
LS LU MC MW MZ					
NL OA PT SD SE SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN					
CO CR CU CZ DE DK					
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP					
KE KG KP KR					
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ					
NO NZ OM PH PL PT					
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN					
YU ZA ZM ZW					

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
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WO 2002078619 A2		WO 2002-US4506	20020213

PRIORITY APPLN. INFO: US 2001-268429P 20010213

AN 2003-103235 [09] WPIDS

AB WO 200278619 A UPAB: 20030206

NOVELTY - An oligonucleotide (I) comprising first nucleotide (N1) comprising at least one alkynyl functional group (G1) at a C5 position of a pyrimidine heterocyclic base (II), and at least one second nucleotide (N2) covalently bound to N1 and comprising at least one G1 at C5 position of (II), is new.

DETAILED DESCRIPTION - An oligonucleotide (I) comprising a first nucleotide (N1) comprising at least one alkynyl functional group (G1) at a C5 position of a pyrimidine heterocyclic base (II), and at least one second nucleotide (N2) covalently bound to N1 and comprising at least one

G1 at C5 position of (II), where (I) comprises:

(a) loss in free energy of at least about 2 kcal/mol when:

(i) G1 of N1 is removed from C5 position of (II), and

(ii) (I) is covalently or non-covalently bound to nucleic acid molecule comprising nucleotide sequence that is substantially

Watson-Crick

complementary to sequence of (I); or

(b) loss in free energy of at least about 2.8 kcal/mol when:

(i) (I) is covalently or non-covalently bound to nucleic acid molecule comprising a nucleotide sequence that is less than substantially Watson-Crick complementary to (I); and

(ii) N1 of (I) is covalently or non-covalently bound to a nucleotide of the nucleic acid which is not a Watson-Crick base pairing nucleotide

for N1.

INDEPENDENT CLAIMS are also included for the following:

(1) A duplex (III) comprising a nucleic acid molecule and (I) hybridized to the nucleic acid molecule;

(2) Designing (M1) an oligonucleotide capable of interfering with the function of a target nucleic acid molecule;

(3) A microarray detection device (IV) comprising a substrate and several oligonucleotides bound to the substrate, each of the oligonucleotides comprising at least 6 nucleotide bases where 6 or more adjacent nucleotide bases of each are alkynylated;

(4) Making (M2) a product; and

(5) A \*\*\*self\*\*\* - \*\*\*assembling\*\*\* system (V) for preparing a product.

ACTIVITY - None given.

MECHANISM OF ACTION - Gene Therapy

No supporting data is given.

USE - (I) is useful for interfering with the activity of a target nucleic acid molecule (an RNA molecule, DNA molecule or a natural or unnatural molecule of related structure, and is preferably not

\*\*\*SV40\*\*\* TAg mRNA) which comprises introducing into an in vitro or in

vivo system including a target nucleic acid molecule, (I) which is effective to bind to the target nucleic acid molecule in a sufficient to interfere with its activity. (I) is useful for detecting the localization of a target nucleic acid molecule in an in vitro or in vivo system which comprises introducing into an in vitro or in vivo system, a labeled (I) including a nucleotide sequence which is substantially complementary and specific to a nucleotide sequence of a target nucleic acid molecule and having 6 or more adjacent nucleotide bases that are alkynylated, allowing sufficient time for the labeled (I) to hybridize with the target nucleic acid molecule, and determining the location of the labeled (I) in the system, the location of the labeled (I) being the same as the location of the target nucleic acid molecule.

(IV) is useful for identifying an oligonucleotide having binding affinity for a target nucleic acid molecule comprising introducing a target nucleic acid molecule to (IV) under conditions effective for hybridization of substantially complementary sequences between the target

nucleic acid molecule and the oligonucleotide, and detecting whether hybridization occurs between the target nucleic acid molecule and one or more several oligonucleotides bound to the substrate. The method further comprises identifying the nucleotide sequence and position of alkynylated bases in an oligonucleotide that hybridized to the target nucleic acid molecule. (IV) is also useful for detecting the presence of a target nucleic acid molecule (e.g., a target nucleic acid specific for a pathogen) in a sample which involves passing a sample over (IV) under conditions suitable for hybridization to occur between oligonucleotides and target nucleic acid molecules, and determining whether any target nucleic acid molecules hybridized to oligonucleotides during the passing (all claimed).

(I) is useful for inhibiting activity of target nucleic acid where the inhibition is performed in vitro for research purposes for identifying viable targets, or in vivo providing a therapeutic or preventative treatment of a condition associated with activity of target nucleic acid molecule. By inhibiting activity of target nucleic acid molecule, (I) lessens the severity or altogether overcomes the condition or disorder associated with the activity of target nucleic acid molecule.

ADVANTAGE - (I) possess greater affinity and higher stability with their target. The duplexes formed using (I) are stable at temperatures which would normally melt a duplex.

Dwg. 0/14

L4 ANSWER 2 OF 13 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2000-452401 [39] WPIDS

CROSS REFERENCE: 2000-452400 [39]; 2000-465745 [39]

DOC. NO. CPI: C2000-137950

TITLE: Polynucleotide encoding antigenic type C HIV Gag polypeptide or a HIV Env polypeptide and the polypeptide useful for immunizing a mammal especially human against HIV.

DERWENT CLASS: B04 D16

INVENTOR(S): BARNETT, S; ZUR MEGEDE, J

PATENT ASSIGNEE(S): (CHIR) CHIRON CORP

COUNTRY COUNT: 87

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
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WO 2000039304 A2 20000706 (200039)\* EN 113  
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE  
 LS LU MC MW NL  
 OA PT SD SE SL SZ TZ UG ZW  
 W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ  
 DE DK EE ES FI GB  
 GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK  
 LR LS LT LU  
 LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI  
 SK SL TJ TM TR  
 TT UA UG UZ VN YU ZA ZW  
 AU 2000024873 A 20000731 (200050)  
 EP 1141314 A2 200011010 (200167) EN  
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV  
 MC MK NL PT  
 RO SE SI

# APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000039304 A2		WO 1999-US31273	19991230
AU 2000024873 A		AU 2000-24873	19991230
EP 1141314 A2		EP 1999-968202	19991230
		WO 1999-US31273	19991230

# FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000024873 A	Based on	WO 200039304
EP 1141314 A2	Based on	WO 200039304

PRIORITY APPLN. INFO: US 1999-152195P 19990901; US  
 1998-114495P

19981231  
 AN 2000-452401 [39] WPIDS  
 CR 2000-452400 [39]; 2000-465745 [39]  
 AB WO 200039304 A UPAB: 20011119  
 NOVELTY - An expression cassette (I) comprising a polynucleotide  
 encoding  
 antigenic type C HIV Gag polypeptide (IIa) or a HIV Env polypeptide  
 (IIb),  
 is new.  
 DETAILED DESCRIPTION - (I) comprises:  
 (a) a polynucleotide (Ia) encoding (IIa) having a nucleotide sequence  
 90% identical to a sequence having nucleotides 844-903 of a sequence  
 (s1)  
 having 60 bp or 841-900 of a sequence (s2) having 60 bp or a sequence  
 (s3)  
 having 1479 or 1509 bp as given in the specification; or  
 (b) a polynucleotide (Ib) encoding (IIb) having a nucleotide sequence  
 90% identical to a sequence having nucleotides 1213-1353 of 141 bp as  
 given in the specification.  
 INDEPENDENT CLAIMS are also included for the following:  
 (1) a recombinant expression system (III) comprising (I) operably  
 linked to control elements compatible with expression in the selected host  
 cell;  
 (2) a cell (IV) comprising (I) operably linked to control elements  
 compatible with expression in the selected host cell; and  
 (3) a composition comprising (I) for generating an immune response.  
 ACTIVITY - Anti-HIV.  
 MECHANISM OF ACTION - Vaccine.  
 The plasmid DNA pCMVKM2 carrying the synthetic Gag expression  
 cassette, was diluted to the following final concentrations in a total  
 injection volume of 100  $\mu$ l: 20  $\mu$ g, 2  $\mu$ g, 0.2  $\mu$ g, 0.02 and 0.002  
 $\mu$ g.  
 As a control, plasmid DNA of the native Gag expression cassette was  
 handled in the same manner. Twelve groups of four or ten Balb/c mice  
 were  
 intramuscularly immunized for a period of 0-4 weeks. The human immune  
 response was checked with an anti-HIV Gag or Env antibody ELISAs of  
 the  
 mice sera 0 and 4 weeks post immunization. Synthetic expression  
 cassettes  
 will provide a clear improvement of immunogenicity relative to the native  
 expression cassettes. The frequency of specific cytotoxic T-lymphocytes  
 (CTL) was evaluated by a standard chromium release assay of peptide

pulsed  
 Balb/c mouse CD4 cells. Env expressing vaccinia virus infected CD-8  
 cells  
 were used as a positive control. Cytotoxic activity was measured in a  
 standard 51Cr release assay. Target (T) cells were cultured with effector  
 (E) cells at various E:T ratios for 4 hours and the average cpm from  
 duplicate wells were used to calculate percent specific 51Cr release.  
 Cytotoxic T-cell (CTL) activity was measured in splenocytes recovered  
 from  
 mice immunized with HIV Gag or Env DNA. Specific lysis of Gag or Env  
 peptide-pulsed SV-BALB (MHC matched) targets cells, indicative of a  
 CTL  
 response. Target cells that were peptide-pulsed and derived from an  
 MHC-unmatched mouse strain (MC57) were not lysed. Thus, synthetic  
 Env and  
 Gag expression cassettes exhibit increased potency for induction of  
 cytotoxic T-lymphocyte (CTL) responses by DNA immunization.  
 USE - Composition comprising (I) or (IIa) or (IIb) is useful (as a  
 vaccine) for immunizing a subject preferably a mammal especially human  
 against HIV. The method comprises expressing (IV) under suitable  
 conditions of expression, isolating (II) produced in administering it to  
 elicit an immune response (claimed). Gag of HIV-1 \*\*\*self\*\*\*  
 \*\*\*assemble\*\*\* into non-infectious virus-like particles which are used  
 as a matrix for the proper presentation of an antigen entrapped or  
 associated to the immune system of the host.  
 Dwg.0/6

L4 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1997:390718 HCAPLUS  
 DOCUMENT NUMBER: 127:2970  
 TITLE: Construction of \*\*\*SV40\*\*\* virions with then use  
 of a helper virus and their use in the delivery of  
 foreign nucleic acids  
 INVENTOR(S): Sandalon, Ziv; Oppenheim, Amos B.; Oppenheim,  
 Ariella  
 PATENT ASSIGNEE(S): Yissum Research Development Company of the  
 Hebrew  
 University of Jerusalem, Israel; Hadassit Medical  
 Research Services and Development Co., Ltd.; Sandalon,  
 Ziv; Oppenheim, Amos, B.; Oppenheim, Ariella  
 SOURCE: PCT Int. Appl., 53 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9717456	A1	19970515	WO 1996-IL143	19961106
W:	AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ,			
DE, DK,	EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR,			
	LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,			
RO, RU,	SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM,			
AZ,	BY, KG, KZ, MD, RU, TJ, TM			
RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR,			
GB, GR,	IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN,			
ML,	MR, NE, SN, TD, TG			
AU 9673314	A1	19970529	AU 1996-73314	19961106
AU 719601	B2	20000511		
EP 859855	A1	19980826	EP 1996-935316	19961106
R:	AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, PT, IE			
PRIORITY APPLN. INFO.:	IL 1995-115880 A	19951106		
	WO 1996-IL143	W 19961106		
AB	An in vitro method of assembling infectious ***SV40*** particles			
from	purified capsid proteins and carrying a foreign nucleic acid, such as a			
	therapeutic gene or a ribozyme, with the use of a helper virus is			
	described. These capsids may be used for the therapeutic delivery of			
	nucleic acids to an individual. Assembly of the capsids may use the			
	capsid proteins (VP1, VP2, VP3) themselves, but may also use the			
	***SV40*** agnoprotein. The capsid proteins were manufd. by			
	expression			



of the genes in Sf9 cells using a com. baculovirus vector. The proteins spontaneously formed capsids in vitro. When the proteins were brought together in the presence of a plasmid carrying a reporter gene, the plasmid was incorporated into the capsids. The in vitro assembly was not dependent upon the *ses* element in the DNA and plasmids significantly larger than the \*\*\*SV40\*\*\* chromosome could be packaged.

L4 ANSWER 4 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE

1  
ACCESSION NUMBER: 1998:7382 BIOSIS  
DOCUMENT NUMBER: PREV199800007382  
TITLE: \*\*\*Self\*\*\* - \*\*\*assembly\*\*\* and protein-protein interactions between the \*\*\*SV40\*\*\* capsid proteins produced in insect cells.  
AUTHOR(S): Sandolan, Ziv; Oppenheim, Ariella (1)  
CORPORATE SOURCE: (1) Dep. Hematol., Hebrew Univ.-Hadassah Med. Sch., Jerusalem 91 120 Israel  
SOURCE: Virology, (Oct. 27, 1997) Vol. 237, No. 2, pp. 414-421. ISSN: 0042-6822.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
AB Soluble \*\*\*SV40\*\*\* capsid proteins were obtained by expression of the three late genes, VP1, VP2, and VP3, in Sf9 cells using baculovirus expression vectors. Coproduction of the capsid proteins VP1, VP2, and VP3

was achieved by infecting Sf9 cells with the three recombinant baculovirus species at equal multiplicities. All three proteins were found to be localized in the nuclear fraction. Electron microscopy of nuclear extracts of the infected cells showed an abundance of \*\*\*SV40\*\*\*-like capsid structures and heterogeneous aggregates of variable size, mostly 20-45 nm. Under the same staining conditions wild-type \*\*\*SV40\*\*\* virions are 45 nm. The capsid-like particles sedimented in glycerol gradients similarly to authentic wild-type \*\*\*SV40\*\*\* virions. Pentamers of the major capsid protein VP1 were also seen. Protein analysis on sucrose gradients demonstrated that the capsid-like particles can be disrupted by treatment with the reducing agent dithiothreitol and the calcium chelator EGTA. The capsid-like particles were found to be significantly less stable than \*\*\*SV40\*\*\* virions and were partially stabilized by calcium ions. Understanding the complex interactions between the capsid proteins is important for the development of an efficient in vitro packaging system for \*\*\*SV40\*\*\* virions and pseudovirions.

L4 ANSWER 5 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE

2  
ACCESSION NUMBER: 1996:152033 BIOSIS  
DOCUMENT NUMBER: PREV199698724168  
TITLE: Filensin and phakinin form a novel type of beaded intermediate filaments and coassemble de novo in cultured cells.  
AUTHOR(S): Goulielmos, George; Gounari, Fotini; Remington, Susan; Mueller, Shirley; Haener, Markus; Aebi, Ueli; Georgatos, Spyros D. (1)  
CORPORATE SOURCE: (1) Dep. Basis Sci., Univ. Crete Sch. Med., 711 10 Heraklion, Crete Greece  
SOURCE: Journal of Cell Biology, (1996) Vol. 132, No. 4, pp. 643-655. ISSN: 0021-9525.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
AB The fiber cells of the eye lens possess a unique cytoskeletal system known

as the "beaded-chain filaments" (BFs). BFs consist of filensin and phakinin, two recently characterized intermediate filament (IF) proteins. To examine the organization and the assembly of these heteropolymeric IFs, we have performed a series of in vitro polymerization studies and transfection experiments. Filaments assembled from purified filensin and phakinin exhibit the characteristic 19-21-nm periodicity seen in many types of IFs upon low angle rotary shadowing. However, quantitative mass-per-length (MPL) measurements indicate that filensin/phakinin filaments comprise two distinct and dissociable components: a core filament and a peripheral filament moiety. Consistent with a nonuniform

organization, visualization of unfixed and unstained specimens by scanning transmission electron microscopy (STEM) reveals the existence of a central

filament which is decorated by regularly spaced 12-15-nm-diam beads.

Our data suggest that the filamentous core is composed of phakinin, which exhibits a tendency to \*\*\*self\*\*\* - \*\*\*assemble\*\*\* into filament bundles, whereas the beads contain filensin/phakinin hetero-oligomers. Filensin and phakinin copolymerize and form filamentous structures when expressed transiently in cultured cells. Experiments in IF-free SW13 cells reveal that coassembly of the lens-specific proteins in vivo does not require a preexisting IF system. In epithelial MCF-7 cells de novo forming filaments appear to grow from distinct foci and organize as thick, fibrous lamellae which line the plasma membrane and the nuclear envelope.

However, filament assembly in CHO and \*\*\*SV40\*\*\* -transformed lens-epithelial cells (both of which are fibroblast-like) yields radial networks which codistribute with the endogenous vimentin IFs. These observations document that the filaments formed by lens-specific IF proteins are structurally distinct from ordinary cytoplasmic IFs. Furthermore, the results suggest that the spatial arrangement of filensin/phakinin filaments in vivo is subject to regulation by host-specific factors. These factors may involve cytoskeletal networks (e.g., vimentin IFs) and/or specific sites associated with the cellular membranes.

L4 ANSWER 6 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE

3  
ACCESSION NUMBER: 1995:308064 BIOSIS  
DOCUMENT NUMBER: PREV199598322364  
TITLE: Morphology and antigenicity of recombinant B19 parvovirus capsids expressed in transfected COS-7 cells.  
AUTHOR(S): Cohen, B. J. (1); Field, A. M.; Mori, J.; Brown, K. E.; Clewley, J. P.; Amand, J. S.; Astell, C. R.  
CORPORATE SOURCE: (1) PHLS Virus Reference Div., Cent. Publ. Health Lab., 61 Colindale Ave., London NW9 5HT UK  
SOURCE: Journal of General Virology, (1995) Vol. 76, No. 5, pp. 1233-1237. ISSN: 0022-1317. *QRL.56*  
DOCUMENT TYPE: Article  
LANGUAGE: English  
AB COS-7 cells transfected with parvovirus B19-simian virus 40 (\*\*\*SV40\*\*\*

) hybrid vectors have previously been shown to express B19 structural proteins. In this study the morphology and antigenicity of B19 proteins expressed in these cells were investigated. At 84 h after transfection, approximately 10% of the COS-7 cells expressed B19 antigen, and the yield was equivalent to 2 times 10<sup>-3</sup> to 2 times 10<sup>-5</sup> B19 particles/transfected cell. The B19 proteins \*\*\*self\*\*\* - \*\*\*assembled\*\*\* into capsids that were morphologically and antigenically similar to native B19 virions, and could substitute for native antigen in a B19 IgM assay. Recombinant capsids lacking the recently described 11 kDa protein also resembled native virions.

L4 ANSWER 7 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE

4  
ACCESSION NUMBER: 1995:165412 BIOSIS  
DOCUMENT NUMBER: PREV199598179712  
TITLE: \*\*\*SV40\*\*\* VP1 Assembles into Disulfide-Linked Postpentameric Complexes in Cell-Free Lysates.  
AUTHOR(S): Gharakhanian, Editte (1); Sajo, Andrew K.; Weidman, M. K.  
CORPORATE SOURCE: (1) Dep. Biol. Sci., California State Univ. Long Beach, 1250 Bellflower Blvd., Long Beach, CA 90840-3702 USA  
SOURCE: Virology, (1995) Vol. 207, No. 1, pp. 251-254. ISSN: 0042-6822. *QRL.V5*  
DOCUMENT TYPE: Article  
LANGUAGE: English  
AB The simian virus 40 (\*\*\*SV40\*\*\* ) capsid is composed of pentameric capsomeres of the major structural protein, VP1. The chemical nature of VP1-VP1 interactions, as well as the role of the minor structural proteins, VP2 and VP3, in \*\*\*SV40\*\*\* assembly is not clear. We show

here that VP1 molecules synthesized in rabbit reticulocyte lysates  
\*\*\*self\*\*\* - \*\*\*assembled\*\*\* into postpentameric 12S complexes in  
the

absence of other viral structural proteins and in a time and concentration  
dependent manner. The 12S complexes were resistant to perturbants of  
noncovalent interactions but were sensitive to reduction by  
dithiothreitol. Nonreducing SDS-PAGE analysis revealed disulfide-linked  
VP1 complexes of gt 400 kDa. Our results are consistent with  
crystallography studies of \*\*\*SV40\*\*\* which suggest involvement of  
disulfide bonds at a postcapsomeric stage of viral assembly.

L4 ANSWER 8 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL  
ABSTRACTS INC.

ACCESSION NUMBER: 1993:365361 BIOSIS

DOCUMENT NUMBER: PREV199396051036

TITLE: The primary \*\*\*self\*\*\* - \*\*\*assembly\*\*\* reaction of  
bacteriophage lambda cI repressor dimers is to octamer.

AUTHOR(S): Senear, Donald F. (1); Laue, Thomas M.; Ross, J. B.  
Alexander (1); Waxman, Evan; Eaton, Steven; Rusinova, Elena  
CORPORATE SOURCE: (1) Dep. Mol. Biol. and Biochem., Univ. Calif.,  
Irvine, CA

92717 USA

SOURCE: Biochemistry, (1993) Vol. 32, No. 24, pp. 6179-6189.  
ISSN: 0006-2960.

DOCUMENT TYPE: Article

LANGUAGE: English

AB Cooperative binding of the bacteriophage lambda cI repressor dimer to  
specific sites of the phage operators O-R and O-L controls the  
developmental state of the phage. It has long been believed that  
cooperativity is mediated by \*\*\*self\*\*\* - \*\*\*assembly\*\*\* of  
repressor dimers to form tetramers which can then bind simultaneously to  
adjacent operator sites. As a first step in defining the individual energy  
contributions to binding cooperativity, sedimentation equilibrium and  
steady-state fluorescence anisotropy methods have been used to study the  
higher order assembly reactions of the free repressor in solution.

Wild-type repressor with 5-hydroxytryptophan (5-OHTrp) substituted for  
the

native tryptophan (Ross et al. (1992) Proc. Natl. Acad. Sci. U.S.A. 89,  
12023-12027) and two mutant repressor proteins that bind cooperatively  
to

OR but have altered dimerization properties were also studied. We report  
here that the primary assembly mode of all four proteins is dimer to  
octamer. It is not dimer to tetramer as previously assumed. While tetramer  
does form as an assembly intermediate, dimer-octamer assembly is a  
concerted process so that tetramer is never a predominant species in  
solution. Sedimentation velocity experiments suggest that the octamer is  
highly asymmetric, consistent with an elongated shape. This conformation  
could allow octamers to bind simultaneously to all three operator sites at  
either O-R or O-L. Examination of tetramer and octamer concentrations  
suggests that both species could be involved in cooperative  
repressor-operator interactions. Our previous work used the unique  
spectral properties of 5-OHTrp to demonstrate that octamer binds  
single-operator DNA and is not dissociated to tetramer (Laue et al. (1993)  
Biochemistry 32, 2469-2472). Taken together with the results presented  
here, octamers as well as tetramers must be considered in developing  
models to explain the cooperativity of lambda cI repressor binding to  
operator DNA.

L4 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1992:403911 HCAPLUS

DOCUMENT NUMBER: 117:3911

TITLE: Virus structure puzzle solved

AUTHOR(S): Caspar, Donald L. D.

CORPORATE SOURCE: Rosenstiel Basic Med. Sci. Res. Cent.,  
Brandeis Univ.,

Waltham, MA, 02254-9110, USA

SOURCE: Current Biology (1992), 2(4), 169-71

CODEN: CUBLE2; ISSN: 0960-9822

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Unanticipated switching mechanisms in the \*\*\*self\*\*\* -  
\*\*\*assembly\*\*\*

of the coat protein of \*\*\*SV40\*\*\* virus have been revealed by its at.  
resoln. structure.

L4 ANSWER 10 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL  
ABSTRACTS INC.

ACCESSION NUMBER: 1991:3773 BIOSIS

DOCUMENT NUMBER: BA91:3773

TITLE: A SINGLE AMINO ACID SUBSTITUTION WITHIN THE  
MATRIX PROTEIN

OF A TYPE D RETROVIRUS CONVERTS ITS  
MORPHOGENESIS TO THAT

OF A TYPE C RETROVIRUS.

AUTHOR(S): RHEE S S; HUNTER E

CORPORATE SOURCE: DEP. MICROBIOL., UNIV. OF ALABAMA AT  
BIRMINGHAM,

BIRMINGHAM, ALA. 35294.

SOURCE: CELL, (1990) 63 (1), 77-86.

CODEN: CELLS5. ISSN: 0092-8674.

FILE SEGMENT: BA; OLD

LANGUAGE: English

AB Two different morphogenic processes of retroviral capsid assembly have  
been observed: the capsid is either assembled at the plasma membrane  
during the budding process (type C), or preassembled within the  
cytoplasm

(types B and D). We describe here a gag mutant of Mason-Pfizer monkey  
virus, a type D retrovirus, in which a tryptophan substituted for an  
arginine in the matrix protein results in efficient assembly of capsids at  
the plasma membrane through a morphogenic process similar to that of  
type

C retroviruses. We conclude that a type D retrovirus Gag polyprotein  
contains an additional, dominant signal that prevents immediate transport  
of precursors from the site of biosynthesis to the plasma membrane.  
Instead, they are directed to and retained at a cytoplasmic site where a  
concentration sufficient for \*\*\*self\*\*\* - \*\*\*assembly\*\*\* into  
capsids occurs. Thus, capsid assembly processes for different retroviruses  
appear to differ only in the intracellular site to which capsid precursors  
are directed.

L4 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1988:626196 HCAPLUS

DOCUMENT NUMBER: 109:226196

TITLE: In vitro assay for protein-protein interaction:  
carboxyl-terminal 40 residues of simian virus 40  
structural protein VP3 contain a determinant for  
interaction with VP1

AUTHOR(S): Gharakhanian, Editte; Takahashi, Jeffrey; Clever,  
Jared; Kasamatsu, Harumi

CORPORATE SOURCE: Mol. Biol. Inst., Univ. California, Los  
Angeles, CA,

90024-1606, USA

SOURCE: Proceedings of the National Academy of Sciences of  
the

United States of America (1988), 85(18), 6607-11

CODEN: PNASA6; ISSN: 0027-8424

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Intermol. interactions between polypeptide chains play essential roles in  
the functioning of proteins. An in vitro assay system for identifying and  
characterizing such interactions is described. Such interactions are  
difficult to study in vivo. Synthetic, nonmethyl-capped RNAs were  
translated in a cell-free protein-synthesizing system. The translation  
products were allowed to interact posttranslationally to form  
protein-protein complexes. The chem. nature of the protein interaction(s)  
was detd. by coimmunopptn. of assocg. proteins, sedimentation through  
sucrose gradients, followed by SDS-polyacrylamide gel electrophoresis or  
by nonreducing SDS-polyacrylamide gel electrophoresis. The system has  
been utilized to show the \*\*\*self\*\*\* - \*\*\*assembly\*\*\* of monomeric  
VP1, the major structural protein of simian virus 40, into  
disulfide-linked pentamers and to show the noncovalent interaction of  
another structural protein, VP3, with VP1 at low monomer concns.

Addnl.,

the carboxyl-terminal 40 amino acids of VP3 are shown to be essential  
and

sufficient for its interaction with VP1 in vitro. The in vitro assay  
system described here provides a method for identifying the domains  
involved in, and the mol. nature of, protein-protein interactions, which  
play an important role in such biol. phenomena as replication,  
transcription, translation, transport, ligand binding, and assembly.

L4 ANSWER 12 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL  
ABSTRACTS INC.DUPLICATE

5

ACCESSION NUMBER: 1983:246749 BIOSIS

DOCUMENT NUMBER: BA76:4241

TITLE: \*\*\*SELF\*\*\* \*\*\*ASSEMBLY\*\*\* OF SV-40 LARGE T ANTIGEN

OLIGOMERS BY DIVALENT CATIONS.

AUTHOR(S): MONTENARH M; HENNING R

CORPORATE SOURCE: DEP. OF BIOCHEM., ULM UNIV., D-7900 ULM, F.R.G.

SOURCE: J VIROL., (1983) 45 (2), 531-538.

CODEN: JOVIAM. ISSN: 0022-538X.

FILE SEGMENT: BA; OLD

LANGUAGE: English

AB In \*\*\*SV40\*\*\* -transformed human skin fibroblast SV80 cells, large T

antigen can be detected in different forms separable by sucrose density gradient centrifugation. Light forms sedimented around 5-7S, oligomers such as tetramers were detected around 16S and higher aggregates sedimented in a broad distribution reaching above 23S. The oligomers sedimenting at and above 16S could be disassembled into the slow sedimenting 5-7S forms by chelating agents [EDTA or ethylene bis(oxonitrilo)tetraacetate]. After the addition of divalent cations (CaCl<sub>2</sub> or MgCl<sub>2</sub>) in excess of chelating agents, oligomeric forms reassembled and appeared in a sedimentation pattern resembling that observed before treatment with chelating agents. Time course studies permitted the identification of the 5-7S forms as precursors upon pulse-labeling (15 min); the 16S and higher oligomers were identified as the successors after a 14 h chase. Treatment of extracts of pulse-chase-labeled cells with chelating agents again disassembled the oligomers, pulse-labeled precursors did not change their 5-7S sedimentation pattern. Adding an excess of divalent cations reassembled the pulse-chase-labeled T antigen to oligomers but did not influence the sedimentation behavior of pulse-labeled 5 to 7S precursors. Evidently, a posttranslational modulation induces divalent cation binding, leading finally to the oligomerization of T antigen. Thus, some of the multifunctional activities of T antigen can be dictated by divalent cation binding properties.

L4 ANSWER 13 OF 13 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 6

ACCESSION NUMBER: 78410837 EMBASE

DOCUMENT NUMBER: 1978410837

TITLE: Radioimmunoassay for tubulin: a quantitative comparison of the tubulin content of different established tissue culture cells and tissues.

AUTHOR: Hiller G.; Weber K.

CORPORATE SOURCE: Max-Planck Inst. Biophys. Chem., D-3400 Goettingen, Germany

SOURCE: Cell., (1978) 14/4 (795-804).

CODEN: CELLB5

COUNTRY: United States

DOCUMENT TYPE: Journal

FILE SEGMENT: 023 Nuclear Medicine

LANGUAGE: English

AB A quantitative estimate of the cellular tubulin concentration can be obtained by the use of a radioimmunoassay based upon the competition between tubulin in cell extracts and a known amount of radioactively labeled homogeneous tubulin during binding to a limited amount of anti-tubulin antibodies. This assay shows that a variety of widely used tissue culture cells (mouse L cells, mouse 3T3 cells, chick embryo fibroblasts) have a tubulin content which corresponds to approximately 2.5-3.3% of their total protein. Transformation of mouse 3T3 cells by the DNA virus \*\*\*SV40\*\*\*, and of chick embryo cells by the RNA Rous sarcoma virus, does not change the intracellular tubulin concentration. Transformed cells of brain origin, such as some glia tumor cell lines and some neuroblastoma cell lines, have a much lower tubulin content than

does

normal brain tissue. The intracellular concentration of tubulin in mouse 3T3 cells is discussed in relation to the number of microtubules detected during interphase by immunofluorescence microscopy. These results are also

discussed in view of a mechanism of microtubule elongation in vivo driven by \*\*\*self\*\*\* - \*\*\*assembly\*\*\*.

=> s vp1

L5 8655 VP1

=> d his

(FILE 'HOME' ENTERED AT 16:26:43 ON 08 MAR 2003)

FILE 'BIOSIS, EMBASE, MEDLINE, WPIDS, HCAPLUS' ENTERED AT 16:26:52 ON 08

MAR 2003

L1 41010 S SV40

L2 34538 S SELF ASSEMBL?

L3 27 S L1 AND L2

L4 13 DUP REM L3 (14 DUPLICATES REMOVED)

L5 8655 S VP1

=> s l1 and l5

L6 537 L1 AND L5

=> s pseudo?

L7 700923 PSEUDO?

=> s l1 and l5 and l6

L8 537 L1 AND L5 AND L6

=> s pseudovirion?

L9 382 PSEUDOVIRION?

=> s l1 and l5 and l9

L10 14 L1 AND L5 AND L9

=> dup rem l10

PROCESSING COMPLETED FOR L10

L11 6 DUP REM L10 (8 DUPLICATES REMOVED)

=> d l11 ibib abs 1-6

L11 ANSWER 1 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1

ACCESSION NUMBER: 2002:360964 BIOSIS

DOCUMENT NUMBER: PREV200200360964

TITLE: Cellular transcription factor Sp1 recruits simian virus 40 capsid proteins to the viral packaging signal, ses.

AUTHOR(S): Gordon-Shaag, Ariela; Ben-Nun-Shaul, Orly; Roitman, Vered;

Yosef, Yael; Oppenheim, Ariella (1)

CORPORATE SOURCE: (1) Department of Hematology, The Hebrew University-Hadassah Medical School and Hadassah University Hospital, Ein Kerem, Jerusalem, 91120; ariella@md.huji.ac.il Israel

SOURCE: Journal of Virology, (June, 2002) Vol. 76, No. 12, pp. 5915-5924. <http://intl-jvi.asm.org/> print. ISSN: 0022-538X.

DOCUMENT TYPE: Article

LANGUAGE: English

AB Simian virus 40 ( \*\*\*SV40\*\*\* ) capsid assembly occurs in the nucleus.

All three capsid proteins bind DNA nonspecifically, raising the dilemma of how they attain specificity to the \*\*\*SV40\*\*\* minichromosome in the presence of a large excess of genomic DNA. The \*\*\*SV40\*\*\* packaging

signal, ses, which is required for assembly, is composed of multiple DNA elements that bind transcription factor Sp1. Our previous studies showed that Sp1 participates in \*\*\*SV40\*\*\* assembly and that it cooperates in DNA binding with VP2/3. We hypothesized that Sp1 recruits the capsid proteins to the viral minichromosome, conferring upon them specific DNA recognition. Here, we have tested the hypothesis. Computer analysis

showed

that the combination of six tandem GC boxes at ses is not found at cellular promoters and therefore is unique to \*\*\*SV40\*\*\*.

Cooperativity in DNA binding between Sp1 and VP2/3 was not abolished

at

even a 1,000-fold excess of cellular DNA, providing strong support for the recruitment hypothesis. Sp1 also binds \*\*\*VP1\*\*\* and cooperates with \*\*\*VP1\*\*\* in DNA binding. \*\*\*VP1\*\*\* pentamers (VP15) avidly

interact

with VP2/3, utilizing the same VP2/3 domain as described for polyomavirus.

We conclude that VP15-VP2/3 building blocks are recruited by Sp1 to

ses,

where they form the nucleation center for capsid assembly. By this mechanism the virus ensures that capsid formation is initiated at a single site around its minichromosome. Sp1 enhances the formation of

\*\*\*SV40\*\*\*

\*\*\*pseudovirions\*\*\* in vitro, providing additional support for the model. Analyses of Sp1 and VP3 deletion mutants showed that Sp1 and

# VP2/3

bind one another and cooperate in DNA binding through their DNA-binding domains, with additional contacts outside these domains. \*\*\*VP1\*\*\* contacts Sp1 at residues outside the Sp1 DNA-binding domain. These and additional data allowed us to propose a molecular model for the VP15-VP2/3-DNA-Sp1 complex.

L11 ANSWER 2 OF 6 WPIDS (C) 2003 THOMSON DERWENT  
 ACCESSION NUMBER: 2002-527338 [56] WPIDS  
 DOC. NO. CPI: C2002-149277  
 TITLE: In vitro assembly of simian virus 40 pseudoviruses containing exogenous constituent comprises contacting semi-purified or pure \*\*\*SV40\*\*\* capsid protein and exogenous constituent in presence of poly (adenosine diphosphate-ribose) polymerase.  
 DERWENT CLASS: B04 D16  
 INVENTOR(S): GORDON-SHAAG, A; OPPENHEIM, A  
 PATENT ASSIGNEE(S): (HADA-N) HADASIT MEDICAL RES SERVICES & DEV; (YISS)  
 YISSUM RES DEV CO HEBREW UNIV JERUSALEM  
 COUNTRY COUNT: 96  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001094560	A2	20011213	(200256)*	EN	42
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2001074444	A	20011217	(200256)		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001094560	A2	WO 2001-IL520	20010606
AU 2001074444	A	AU 2001-74444	20010606

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001074444	A Based on	WO 200194560

PRIORITY APPLN. INFO: IL 2000-136610 20000606

AN 2002-527338 [56] WPIDS

AB WO 200194560 A UPAB: 20020903

NOVELTY - Improved in vitro assembly (M1) of simian virus (SV)40 pseudoviruses comprising at least one pure or semi-purified \*\*\*SV40\*\*\*

capsid protein (I) and at least one exogenous constituent (II) such as nucleic acid, protein or peptide comprising contacting at least one semi-purified or purified (I) with at least one (II) in the presence of semi-purified or purified poly(ADP-ribose) polymerase (PARP), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an \*\*\*SV40\*\*\* virus or pseudovirus (III) prepared by contacting (I) (preferably, semi-purified or pure \*\*\*SV40\*\*\* \*\*\*VP1\*\*\* ) with an exogenous constituent (an exogenous nucleic acid encoding a therapeutic protein or peptide (IV) (e.g., an enzyme, receptor, a structural or regulatory protein, or a hormone, and preferably human beta-globin, multidrug resistance (MDR)1 or glucocerebrosidase) which

is

not expressed, is expressed in an abnormally low amount, or is expressed in defective form or is expressed in physiologically abnormal amount, in a target cell) in the presence of PARP;

(2) a mammalian cell (V) infected with (III); and

(3) pharmaceutical compositions (VI) for treating hereditary

diseases, malignant diseases, bacterial and viral infection diseases or autoimmune diseases comprising (III) or (V).

ACTIVITY - Antibacterial; Virucide; Cytostatic; Immunosuppressive; Antianemic.

MECHANISM OF ACTION - Gene therapy; Antisense therapy; Vaccine. No

supporting data is given.

USE - For in vitro assembly of \*\*\*SV40\*\*\* pseudoviruses. (III) and (V) are useful for providing a therapeutic DNA, RNA, antisense RNA,

ribozyme RNA, chimeric RNA or DNA, protein or peptide product, to a patient. (III) and (V) are also useful in the preparation of a pharmaceutical composition for treating a pathological disorder which requires expression of a product normally not made by the individual, or modulation of a product that is made in abnormal amounts or in a

defective

or abnormal form. Preferably, the composition is used for increasing expression of human MDR-1 gene, human beta-globin gene and human glucocerebrosidase gene. The pharmaceutical compositions are useful for treating hereditary disorders (such as beta-thalassemia in which case the \*\*\*pseudovirions\*\*\* comprise the human beta-globin gene. Gaucher disease in which case the \*\*\*pseudovirions\*\*\* comprise the human glucocerebrosidase gene), malignant diseases, bacterial or viral infections or autoimmune diseases (claimed). (III) is useful for delivering mRNA coding for a protein which promotes homologous recombination, and may be used in co-infection together with constructs comprising the mRNA encoding for proteins which promote homologous recombination. (VI) is useful for vaccination and immune-modulating treatment purposes.

ADVANTAGE - The method improves the efficiency of the in vitro packaging and the infectivity of the \*\*\*pseudovirions\*\*\*. The method is highly flexible and allow the development of gene targeting and/or gene replacement therapies. PARP increases the infectivity of \*\*\*SV40\*\*\* \*\*\*pseudovirions\*\*\* comprising capsid proteins and a heterologous constituent.

Dwg.0/5

L11 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:82306 HCAPLUS

DOCUMENT NUMBER: 135:283687

TITLE: Production of \*\*\*SV40\*\*\* proteins in insect cells and in vitro packaging of virions and \*\*\*pseudovirions\*\*\*

AUTHOR(S): Sandalon, Ziv; Oppenheim, Ariella

CORPORATE SOURCE: Department of Molecular Genetics and Microbiology,

State University of New York at Stony Brook, Stony Brook, NY, USA

SOURCE: Methods in Molecular Biology (Totowa, NJ, United States) (2001), 165(SV40 Protocols), 119-128  
 CODEN: MMBIED; ISSN: 1064-3745

PUBLISHER: Humana Press Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Protocols are given for the expression of \*\*\*SV40\*\*\* virus proteins \*\*\*VP1\*\*\*, VP2, and VP3 using recombinant baculovirus vectors in Sf9

cells. Prodn. of these proteins can lead to the formation of virus-like particles which can be used for packaging \*\*\*SV40\*\*\* DNA or heterologous plasmid DNA in vitro, leading to the prodn. of functional \*\*\*SV40\*\*\* virions and \*\*\*pseudovirions\*\*\*.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L11 ANSWER 4 OF 6 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 2

ACCESSION NUMBER: 97165193 EMBASE

DOCUMENT NUMBER: 1997165193

TITLE: In vitro assembly of \*\*\*SV40\*\*\* virions and

\*\*\*pseudovirions\*\*\* : Vector development for gene therapy.

AUTHOR: Sandalon Z.; Dalyot-Herman N.; Oppenheim A.B.;

Oppenheim A.

CORPORATE SOURCE: Dr. A. Oppenheim, Department of Hematology, Hebrew

Univ.-Hadassah Medical School, Jerusalem 91120, Israel

SOURCE: Human Gene Therapy, (1997) 8/7 (843-849).

Refs: 16  
 ISSN: 1043-0342 CODEN: HGTHE3  
 COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article  
 FILE SEGMENT: 004 Microbiology  
 022 Human Genetics  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English  
 AB \*\*\*SV40\*\*\* is an attractive potential vector with high-efficiency gene transfer into a wide variety of human tissues, including the bone marrow, a critical target organ for the cure of many diseases. In the present study, the three \*\*\*SV40\*\*\* capsid proteins, \*\*\*VP1\*\*\*, VP2, and VP3, were produced in *Spodoptera frugiperda* (Sf9) insect cells. Their co-production led to spontaneous assembly of \*\*\*SV40\*\*\*-like particles. Nuclear extracts containing the three proteins were allowed to interact with purified \*\*\*SV40\*\*\* DNA, or with plasmid DNA produced and purified from *Escherichia coli*. The experiments demonstrated a physical association between the DNA and capsid proteins, protection from DNase I digestion, and the formation of infectious particles. The results indicate that intact, supercoiled DNA is being packaged and transmitted into the target cells. The transmitted DNA is biologically functional in gene expression and replication. The process, which utilizes naked DNA, is not dependent on the \*\*\*SV40\*\*\* packaging signal sequences. The procedure allows packaging of plasmids significantly larger than \*\*\*SV40\*\*\* and permits the inclusion of potent regulatory signals, such as  $\beta$ -globin locus control region (LCR) elements. These studies are the first step in the development of purified, in vitro-constructed \*\*\*pseudovirions\*\*\* for experimental and medical use.

L11 ANSWER 5 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3  
 ACCESSION NUMBER: 1998:7382 BIOSIS  
 DOCUMENT NUMBER: PREV19980007382  
 TITLE: Self-assembly and protein-protein interactions between the \*\*\*SV40\*\*\* capsid proteins produced in insect cells.  
 AUTHOR(S): Sandalon, Ziv; Oppenheim, Ariella (1)  
 CORPORATE SOURCE: (1) Dep. Hematol., Hebrew Univ.-Hadassah Med. Sch., Jerusalem 91120 Israel  
 SOURCE: Virology, (Oct. 27, 1997) Vol. 237, No. 2, pp. 414-421. ISSN: 0042-6822.  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
 AB Soluble \*\*\*SV40\*\*\* capsid proteins were obtained by expression of the three late genes, \*\*\*VP1\*\*\*, VP2, and VP3, in Sf9 cells using baculovirus expression vectors. Coproduction of the capsid proteins \*\*\*VP1\*\*\*, VP2, and VP3 was achieved by infecting Sf9 cells with the three recombinant baculovirus species at equal multiplicities. All three proteins were found to be localized in the nuclear fraction. Electron microscopy of nuclear extracts of the infected cells showed an abundance of \*\*\*SV40\*\*\*-like capsid structures and heterogeneous aggregates of variable size, mostly 20-45 nm. Under the same staining conditions wild-type \*\*\*SV40\*\*\* virions are 45 nm. The capsid-like particles sedimented in glycerol gradients similarly to authentic wild-type \*\*\*SV40\*\*\* virions. Pentamers of the major capsid protein \*\*\*VP1\*\*\* were also seen. Protein analysis on sucrose gradients demonstrated that the capsid-like particles can be disrupted by treatment with the reducing agent dithiothreitol and the calcium chelator EGTA. The capsid-like particles were found to be significantly less stable than \*\*\*SV40\*\*\* virions and were partially stabilized by calcium ions. Understanding the complex interactions between the capsid proteins is important for the development of an efficient in vitro packaging system for \*\*\*SV40\*\*\* virions and \*\*\*pseudovirions\*\*\*.

L11 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1992:646616 HCAPLUS  
 DOCUMENT NUMBER: 117:246616  
 TITLE: Transduction vehicles for transferring DNA to a mammalian cell  
 INVENTOR(S): Hellwig, Randolph J.  
 PATENT ASSIGNEE(S): 5 Prime, f.w.darw. 3 Prime, Inc., USA  
 SOURCE: PCT Int. Appl., 40 pp.

CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9216638	A1	19921001	WO 1992-US2000	19920312
W: JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
PRIORITY APPLN. INFO.: US 1991-669881 19910314				
AB Transduction vehicles for introducing foreign genes into, e.g. human cells, are prepd. by (1) synthesizing viral capsid proteins in non-primate cells and (2) packaging a nucleoprotein complex containing a double-stranded, non-viral DNA with the capsid proteins of 1 to form ***pseudovirions***. The capsid proteins are papovavirus, adenovirus, or herpes virus capsid proteins. Prepn. of ***SV40*** capsid proteins ***VP1***, VP2, and VP3 by expression of the respective genes in <i>Escherichia coli</i> , assembly of minichromosomes consisting of pSV2CAT and calf thymus histones, and assembly of ***pseudovirions*** as transduction vehicles were demonstrated. Transduction efficiency was determined by assay of the reporter enzyme chloramphenicol acetylase.				

=> dup rem l8  
 PROCESSING COMPLETED FOR L8  
 L12 251 DUP REM L8 (286 DUPLICATES REMOVED)  
 => s l12 and py<1996  
 2 FILES SEARCHED...  
 4 FILES SEARCHED...  
 L13 180 L12 AND PY<1996  
 => d l13 ibib abs 100-180

L13 ANSWER 100 OF 180 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.  
 ACCESSION NUMBER: 75209707 EMBASE  
 DOCUMENT NUMBER: 1975209707  
 TITLE: Structural proteins of simian virus 40. I. Histone characteristics of low molecular weight polypeptides.  
 AUTHOR: Pett D.M.; Estes M.K.; Pagano J.S.  
 CORPORATE SOURCE: Dept. Bacteriol. Immunol., Sch. Med., Univ. North Carolina, Chapel Hill, N.C. 27514, United States  
 SOURCE: Journal of Virology, (1975) 15/2 (379-385). CODEN: JOVIAM  
 DOCUMENT TYPE: Journal  
 FILE SEGMENT: 047 Virology  
 016 Cancer  
 LANGUAGE: English  
 AB The DNA associated polypeptides of simian virus 40 (\*\*\*SV40\*\*\*), VP4 (mol wt 14,000), VP5 (mol wt 12,000), and VP6 (mol wt 11,000), have several properties characteristic of cell histones. After extraction from purified \*\*\*SV40\*\*\* with dilute acids, these three polypeptides co-electrophoresed on low pH polyacrylamide gels with monkey kidney cell histones F3, F2b, and F2a1. No virus polypeptide co-electrophoresed with histone F1. Polypeptides VP4, 5, and 6 lacked tryptophan, and only VP4 contained cysteine, as determined by sodium dodecyl sulfate polyacrylamide gel electrophoresis of virus labeled in vivo with [3H]lysine and either [14C]tryptophan or [35S]cysteine. All of the capsid polypeptides \*\*\*VP1\*\*\*, 2, and 3 contained tryptophan whereas only \*\*\*VP1\*\*\* and 2 contained cysteine. In addition, VP4, 5, and 6 are rich in arginine and lysine when compared with virus labeled with a mixture of amino acids. Analysis of virus grown in cells labeled prior to infection showed that VP4, 5, and 6 were labeled fivefold greater than the major capsid polypeptide, \*\*\*VP1\*\*\*, which indicates that they were partially derived from preexisting cell histones. Based on these data and on previously determined molecular weight estimates, it is concluded that VP4, 5, and 6 are histones F3, F2b, and F2a1, respectively, although the possibility that \*\*\*SV40\*\*\* contains a small amount of F2a2 could not be excluded.